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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,242	07/18/2003	Michael G. Frazier	VI/99-024.D	3127

7590
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02/21/2007

EXAMINER

KISH, JAMES M

ART UNIT	PAPER NUMBER
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3737

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/622,242

Applicant(s)

FRAZIER ET AL.

Examiner

James Kish

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) 17 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 and 18 is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-15 and 19 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed November 6, 2006 have been fully considered but they are not persuasive.

1. Applicant argues that the Uber III reference (Patent No. 5,494,036) does not disclose an integrated assembly comprising either an injection control unit and communication unit or a system controller and communication unit thereby allowing the combined assembly to be moved as a single unit. While not explicitly stated in the disclosure of the patent, the use of a one-piece construction instead of the structure disclosed in the reference would be merely a matter of obvious engineering choice. See in re Larson in the MPEP: 2144.04, section B. Examiner notes that changing [positioned within the isolation unit and associated] to - integral - has changed the scope of independent claims 1 and 8.

2. Applicant has amended claim 12 by replacing [transmitting] with -- collimating -- and has therefore changed the scope of the aforementioned claim. In light of this amendment, Applicant argues that Uber does not teach a three part system comprising (1) a communication unit, (2) a light collimating device, and (3) the optical cabling interconnecting them. However, Uber does state that a fiberoptic communication link can be used to provide the communication link, since fiberoptics do not create electromagnetic radiation (column 3, lines 3-6). It is obvious to one of ordinary skill in the art of fiberoptics that if there is a gap between the ends of the optical cables that a light collimator provides the necessary means to guide the entire optical signal to the

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receiving optical cable. This is demonstrated by US Patents 3,829,195; 4,119,362; 4,183,618; and 4,360,249; granted to Rawson, Holzman, Rush et al., and Slemon, respectively. The fiber optic configuration above is considered to describe a passive light transmitting device.

In view of the above arguments, the basis for rejection as previously conveyed in the Office Action of June 15, 2006 still stands. Modifications, such as 102(b) rejections becoming 103(a) rejections, are based on changes in the scope in relation to the amendments.

Claim Objections

3. Claim 13 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 13 states that "the first communication unit is positioned within a shielded housing." Claim 12 (its parent claim) states, "a first communication unit positioned within a shielded housing...".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 5 and 8-9 rejected under 35 U.S.C. 102(b) as being anticipated by Uber, III et al. (US Patent No. 5,494,036). Uber discloses a system with an improved communication link between an externally located system controller and the injection head control unit which is located within the electromagnetic isolation barrier of the magnetic imaging suite (column 1, lines 15-20, also see column 2, lines 53-59). The communication link is made through a window in the isolation room barrier. The link consists of electromagnetic transceivers positioned on either side of the viewing window (column 2, lines 60-67 and column 3, lines 60-65). Infrared or electromagnetic energy, or fiber optics is among the list of usable communication formats (column 3, lines 2-6). The injection control unit is contained within an electromagnetic shield to prevent the undesired electromagnetic radiation generated by the electric motors from interfering with the magnetic field used in the MRI device (column 4, lines 5-10).

5. Claims 2-3, 10-11 and 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Uber, III et al. in view of Kormos et al. (US Patent No. 6,198,285). Uber discloses a system with an improved communication link between an externally located system controller and the injection head control unit which is located within the electromagnetic isolation barrier of the magnetic imaging suite (column 1, lines 15-20, also see column 2, lines 53-59). While Uber discloses using electromagnetic energy as the communication link, there is no limit on the range. Kormos teaches the use of a properly filtered RF remote control where the RF control signal produced is established

outside a range, which might affect the MRI scanner (column 8, lines 44-51). For any instance where the MR device produces RF pulses below 1 GHz, it would be obvious to one skilled in the art to use a 1 GHz or greater transmission frequency, thereby falling outside of a range that would affect the MRI scanner. It would have been obvious to one having ordinary skill in the art at the time the invention was made to limit the use of RF control signals as taught by Kormos in the system disclosed by Uber in order to not disturb the imaging process.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uber, III et al. in view of Stormont et al. (US Patent No. 4,737,712). Uber discloses a system with an improved communication link between an externally located system controller and the injection head control unit which is located within the electromagnetic isolation barrier of the magnetic imaging suite (column 1, lines 15-20, also see column 2, lines 53-59). While Uber discloses using multiple formats as the communication link, ultrasonic energy is not discussed. Stormont shows in Figure 3 the use of ultrasonic energy being transmitted through air from a controlling circuit to a remotely located device. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use ultrasonic energy to transmit a signal as taught by Stormont as an alternative to the other methods discussed by Uber because ultrasonic energy would not disrupt the imaging process.

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7. Claims 12-15 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Uber, III et al. (US Patent No. 5,494,036) in view of any one of 3,829,195; 4,119,362; 4,183,618; and 4,360,249. Uber discloses a system with an improved communication link between an externally located system controller and the injection head control unit which is located within the electromagnetic isolation barrier of the magnetic imaging suite (column 1, lines 15-20, also see column 2, lines 53-59). The communication link is made through a window in the isolation room barrier. The link consists of electromagnetic transceivers positioned on either side of the viewing window (column 2, lines 60-67 and column 3, lines 60-65). Infrared or electromagnetic energy, or fiber optics is among the list of usable communication formats (column 3, lines 2-6). The injection control unit is contained within an electromagnetic shield to prevent the undesired electromagnetic radiation generated by the electric motors from interfering with the magnetic field used in the MRI device (column 4, lines 5-10). Uber states that a fiber-optic communication link can be used to provide the communication link, since fiber-optics do not create electromagnetic radiation (column 3, lines 3-6). It is obvious to one of ordinary skill in the art of fiber-optics that if there is a gap between two ends of the optical cables that a light collimator provides the necessary means to guide the entire optical signal to the receiving optical cable. This is demonstrated by US Patents 3,829,195; 4,119,362; 4,183,618; and 4,360,249; granted to Rawson, Holzman, Rush et al., and Slemon, respectively.

Allowable Subject Matter

8. Claims 16 and 18 are allowed.
9. Claims 6-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Kish whose telephone number is 571-272-5554. The examiner can normally be reached on 8:30 - 5:00 ~ Mon. - Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMK


BRIAN CASLER
SUPERVISOR
ART UNIT 3737